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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Confirmation No. 8538
Kazuki HONDA et al. : Attorney Docket No. 2005_0064A
Serial No. 10/523,694 : Group Art Unit 2837
Filed February 3, 2005 : Examiner Jeremy Austin Luks

SUSPENSION AND ELECTRO-ACOUSTIC
TRANSDUCER USING THE SAME : Mail Stop Appeal Brief-Patents

APPEAL BRIEF FILED UNDER 37 CFR §41.37

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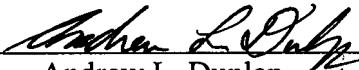
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Sir:

The following is Appellants Brief, submitted under the provisions of 37 CFR § 41.37. Pursuant to the provisions of 37 CFR § 41.20, this brief is submitted with a fee of \$500.00.

Respectfully submitted,

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REAL PARTY IN INTEREST

The real party in interest is MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., the assignee of record (Reel/Frame: 016920/0966).

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1-14 are cancelled.

Claims 15-28 are rejected.

The rejection of claims 15-28 is being appealed.

A complete copy of all of the pending claims, which include the amendments filed on June 28, 2007 is provided in the attached Claims Appendix.

STATUS OF AMENDMENTS

Amendments were filed on June 28, 2007 and were entered subsequent to the final Office Action of May 2, 2007.

SUMMARY OF CLAIMED SUBJECT MATTER

A description of the subject matter of the rejected claims is presented below. All references to the specification refer to the substitute specification filed on February 15, 2007.

Independent claim 15 is directed to a suspension device (see Figs. 1A, 1B, and 2A, element 1a, and page 5, lines 11 and 12 of the specification). Claim 15 recites that the suspension device 1a is for spanning between an inner member (see Figs. 1A and 2A, and page 5, lines 13 and 14 of the specification) and an outer member (see Figs. 1A and 2A, and page 5, lines 13 and 14 of the specification) arranged outwardly of the inner member. Claim 15 recites that the suspension device 1a includes a plurality of roll sections (see Figs. 1A and 2A, element 1b, and page 5, lines 14 and 15 of the specification) configured to span between the inner member and the outer member and being arranged in a loop (see Figs. 1A and 2A, and page 5, lines 17 and 18 of the specification). Further, claim 15 recites that the suspension device 1a includes a plurality of boundary sections (see Figs. 1A and 2A, element 2, and page 5, lines 14-16 of the specification), each of said boundary sections 2 being arranged between an adjacent pair of said roll sections (see Figs. 1A, 2A, 2B, and 2C, arrangement of elements 1b and 2, and page 5, lines 21-24 of the specification), such that said roll sections 1b and said boundary sections 2 are arranged so as to form a continuously alternating pattern of said roll sections 1b and said boundary sections 2 (see Figs. 1A and 2A, arrangement of elements 1b and 2, and page 5, lines 14-16 and 21-24 of the specification).

In addition, claim 15 recites that the continuously alternating pattern of said roll sections 1b and said boundary sections 2 forms a continuous closed loop having a continuous surface (see Figs. 1A and 2A, and page 5, lines 14-16 and 21-24 of the specification). Further, claim 15 recites that each of said roll sections 1b includes an inner-connecting edge (see Figs. 1A and 2A, element 5, and page 5, lines 16-18 and 24-26 of the specification) configured to connect to the inner member and includes an outer-

connecting edge (see Figs. 1A and 2A, element 4, and page 5, lines 16-18 and 24-26 of the specification) configured to connect to the outer member.

Moreover, claim 15 recites that said roll sections 1b are circumferentially arranged in a continuous closed loop (see Figs. 1A and 2A). Claim 15 also recites that each of said roll sections 1b constitutes a semi-cylindrical curved surface spanning from said inner-connecting edge 5 to said outer-connecting edge 4 (see Figs. 1A, 1B, and 2A). Lastly, claim 15 recites that for each of said roll sections 1b, at least one of said inner-connecting edge 5 and said outer-connecting edge 4 constitutes a straight edge (see Fig. 1A, element 3, and page 7, lines 21-24 of the specification), said straight edges of said roll sections together forming the continuous closed loop (see Fig 1A, and page 7, lines 21-24 of the specification).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 15-18, 22-24, and 28 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by Czerwinski (U.S. 2003/0068064).

Whether claims 19 and 25 are unpatentable under 35 U.S.C. § 103(a) as being obvious in view of Czerwinski.

Whether claims 20, 21, 26, and 27 are unpatentable under 35 U.S.C. § 103(a) as being obvious in view of the combination of Czerwinski and Saiki (U.S. 6,208,237).

ARGUMENT

I. Rejection under 35 U.S.C. §102(e) over Czerwinski (U.S. 2003/0068064)

Rejection

Claims 15-18, 22-24, and 28 were rejected under 35 U.S.C. §102(e) as being anticipated by Czerwinski. The Examiner's detailed rejections are set forth on pages 2 and 3 of the final Office Action mailed on May 2, 2007.

Discussion of Czerwinski Reference

Czerwinski teaches a neoprene surround 15 including an outer periphery 16 and an inner periphery 17 (see Fig. 2, and paragraph [0039], lines 4-6). Further, the neoprene surround 15 is U-shaped and includes a plurality of radially distributed less-compressed areas 30 spaced between radially distributed more-compressed areas (see Fig. 1, paragraph [0039], lines 4-6, and paragraph [0041], lines 1-6).

According to Czerwinski, the less-compressed and more-compressed areas of the surround 15 are simply continuations (i.e., continuous portions) of surrounding areas of the surround 15, such that the less and more compressed areas together are continuously connected to the inner and outer peripheries 16 and 17. In other words, the less-compressed and more-compressed areas are areas of the surround 15 that do not have an edge, and are simply continuous portions of the surround 15 (see paragraph [0044]).

It is noted that the term "edge" is defined as (i) a line where an object or area begins or ends, or (ii) a line or segment that is the intersection of two plane faces (see Merriam-Webster online dictionary, www.merriam-webster.com/dictionary, October, 2007). Thus, in view of the definition of the term "edge" and the illustration of the surround 15 (including the outer and inner peripheries 16 and 17) in fig. 1, it is clear that the less-compressed and more-compressed areas do not themselves have "edges" (i.e., lines where object/area begins or ends, or intersection of two plane faces) but are merely part of the surround 15 and are thus, continuous with other portions (e.g., inner and outer peripheries 16 and 17) of the surround 15.

Further, Czerwinski teaches that the outer periphery 16 connects to an annular mounting flange 12, and the inner periphery 17 connects to an annular outer periphery 19

of diaphragm 18 (see Fig. 1, and paragraph [0039], lines 6-8). However, it is noted that Czerwinski does not disclose the shape (e.g., curved or straight) of the path of the outer periphery 16 or the inner periphery 17. Accordingly, since Czerwinski does not disclose whether the path of the inner and outer peripheries 16 and 17 is curved or straight, it is submitted that the overall annular nature of the surround 15 (see Fig. 1) as well as the annular shapes of the mounting flange 12 and the outer periphery 19, which are connected to the surround 15, would cause a person of ordinary skill in the art to consider that the inner and outer peripheries 16 and 17 constitute curved (i.e., not straight) portions.

Claims 15-18, 22-24, and 28

Independent claim 15 recites a suspension device including a plurality of roll sections and a plurality of boundary sections wherein each boundary section is arranged between an adjacent pair of roll sections. Further, claim 15 recites that inner-connecting and/or outer-connecting edges, of the roll sections, constitute straight edges which together form a continuous closed loop. Accordingly, claim 15 requires that a continuous closed loop is formed by the inner and/or outer connecting edges of the roll sections themselves and not by any edges or surfaces of the boundary sections. Czerwinski fails to disclose or suggest the inner and/or outer connecting edges of the roll sections that (i) are circumferentially arranged in a continuous closed loop, and (ii) constitute straight edges which together form the continuous closed loop, as recited in claim 15.

On pages 2 and 3 of the Office Action the Examiner equates the roll sections of claim 15 with the less-compressed areas 30 of Czerwinski and equates the boundary sections of claim 15 with the more-compressed areas of Czerwinski. In addition, the Examiner takes the position that the less-compressed areas 30 are the same as the inner and/or outer connecting edges of the roll sections of claim 15. Appellants respectfully disagree with the Examiner's position for the reasons discussed below.

The less-compressed areas 30 of Czerwinski cannot be said to include the inner and/or outer connecting edges of the roll sections that are circumferentially arranged and together form a continuous closed loop, as required by claim 15, since, as illustrated in Fig. 1 of Czerwinski and as established above, the less-compressed areas 30 do not have

edges but are merely continuous portions of the surround 15. Thus, the less compressed areas 30, cannot be said to have edges that together form a continuous closed loop.

It is also noted that even if the less-compressed areas 30 were described in Czerwinski as having edges, it is clear that any so-called edges of the less-compressed areas alone do not form a continuous closed loop (i.e., according to claim 15, the boundary section edges are not required to form the continuous closed loop, but according to Czerwinski the less-compressed and the more-compressed areas are both required to form a loop).

The Examiner also takes the position that the less-compressed areas 30 have straight edges that form a continuous closed loop, as required by claim 15. Appellants respectfully disagree with the Examiner's position for the reasons discussed below.

As discussed above, Czerwinski does not disclose whether the path of the inner and outer peripheries 16 and 17 is curved or straight. Thus, there is no basis for the Examiner's assertion that Czerwinski teaches that the less-compressed areas 30 have straight edges that form a continuous closed loop, as required by claim 15.

Furthermore, it is submitted that the inner and outer peripheries 16 and 17 do not, from viewing the Czerwinski reference, appear to be straight. Moreover, it is submitted that the overall annular nature of the surround 15, as well as the annular shapes of the mounting flange 12 and outer periphery 19, which are connected to the surround 15, would cause a person of ordinary skill in the art to consider that the inner and outer peripheries 16 and 17 constitute curved (i.e., not straight) portions. Accordingly, it is clear that Czerwinski does not disclose or suggest that the continuous closed loop is formed from the edges of the roll sections, wherein the edge of each roll section constitutes a straight edge, and wherein together the straight edges of the roll sections form the continuous closed loop.

In view of the above, it is respectfully submitted that Czerwinski does not anticipate the invention as recited in independent claim 15. Furthermore, Czerwinski does not suggest the above-discussed limitations of claim 15. Therefore, it would not have been obvious to one of ordinary skill in the art to modify the Czerwinski reference so as to obtain the invention of claim 15. Accordingly, the Examiner's decision to finally reject claim 15 should be reversed.

Claims 16-18, 22-24, and 28 depend from claim 15 and are therefore considered patentable at least by virtue of their dependency.

II. Rejection under 35 U.S.C. §103(a) over Czerwinski (U.S. 2003/0068064)

Rejection

Claims 19 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Czerwinski. The Examiner's detailed rejections are set forth on page 4 of the final Office Action mailed on May 2, 2007.

Claims 19 and 25

Claims 19 and 25 depend from claim 15. Thus, claims 19 and 25 are patentable at least by virtue of their dependency.

III. Rejection under 35 U.S.C. §103(a) over Czerwinski (U.S. 2003/0068064) in view of Saiki (U.S. 6,208,237).

Rejection

Claims 20, 21, 26, and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Czerwinski in view of Saiki. The Examiner's detailed rejections are set forth on pages 4 and 5 of the final Office Action mailed on May 2, 2007.

Claims 20, 21, 26, and 27

The Saiki reference was cited for teaching the arrangement of the first and second suspension devices recited in claims 20, 21, 26, and 27. However, claims 20, 21, 26, and 27 depend from claim 15, and Saiki fails to cure the deficiencies of Czerwinski, as discussed above with respect to claim 15. Thus, it is submitted that claims 20, 21, 26, and 27 are patentable over the combination of Czerwinski and Saiki.

IV. Conclusion

For the reasons set forth above, it is submitted that any combination of the Czerwinski and Saiki references does not disclose, suggest or otherwise render obvious all of the features of independent claim 15.

Accordingly, as the applied prior art does not teach or render obvious every limitation set forth in claim 15, it is submitted that independent claim 15, and all claims that depend therefrom should be considered allowable.

CLAIMS APPENDIX

Claims 1-14 (Cancelled)

Claim 15 A suspension device for spanning between an inner member and an outer member arranged outwardly of the inner member, said suspension device comprising:

a plurality of roll sections configured to span between the inner member and the outer member and being arranged in a loop; and

a plurality of boundary sections, each of said boundary sections being arranged between an adjacent pair of said roll sections, such that said roll sections and said boundary sections are arranged so as to form a continuously alternating pattern of said roll sections and said boundary sections,

wherein the continuously alternating pattern of said roll sections and said boundary sections forms a continuous closed loop having a continuous surface,

wherein each of said roll sections includes an inner-connecting edge configured to connect to the inner member and an outer-connecting edge configured to connect to the outer member,

wherein said roll sections are circumferentially arranged in a continuous closed loop,

wherein each of said roll sections constitutes a semi-cylindrical curved surface spanning from said inner-connecting edge to said outer-connecting edge, and

wherein for each of said roll sections, at least one of said inner-connecting edge and said outer-connecting edge constitutes a straight edge, said straight edges of said roll sections together forming the continuous closed loop.

Claim 16 The suspension device of claim 15, wherein said roll sections are arranged at regular intervals.

Claim 17 The suspension device of claim 15, further comprising:

a frame attaching part connected to a continuous outer loop formed by said outer-connecting edges of said roll sections, said frame attaching part being configured to connect to a frame,

wherein any non-continuous parts of said inner-connecting edges of said roll sections are trimmed.

Claim 18 The suspension device of claim 15, further comprising:

a vibration system attaching part connected to a continuous inner loop formed by said inner-connecting edges of said roll sections, said vibration system attaching part being configured to connect to a diaphragm or a voice coil,

wherein any non-continuous parts of said outer-connecting edges of said roll sections are trimmed.

Claim 19 The suspension device of claim 15, wherein said plurality of roll sections is constituted by an odd number of said roll sections.

Claim 20 A device comprising first and second suspension devices arranged in a covering relation with respect to each other, each of said first and second suspension devices being constituted by the suspension device of claim 15.

Claim 21 A device comprising first and second suspension devices arranged in a covering relation with respect to each other, each of said first and second suspension devices being constituted by the suspension device of claim 15, and wherein said first and second suspension devices are circumferentially offset relative to one another by 1/2 of a width of one of said roll sections.

Claim 22 An electro-acoustic transducer comprising:

the suspension device of claim 15,
wherein said inner-connecting edges of said roll sections are coupled with a voice coil disposed in a magnetic gap of a magnetic circuit or with an outer peripheral part of a diaphragm coupled with said voice coil, and

wherein a frame attaching part is connected to a continuous outer loop formed by said outer-connecting edges of said roll sections, said frame attaching part for supporting the magnetic circuit and a vibration system.

Claim 23 The suspension device of claim 16, further comprising:

a frame attaching part connected to a continuous outer loop formed by said outer-connecting edges of said roll sections, said frame attaching part being configured to connect to a frame,

wherein any non-continuous parts of said inner-connecting edges of said roll sections are trimmed.

Claim 24 The suspension device of claim 16, further comprising:

a vibration system attaching part connected to a continuous-inner loop formed by said inner-connecting edges of said roll sections, said vibration system attaching part being configured to connect to a diaphragm or a voice coil,

wherein any non-continuous parts of said inner-connecting edges of said roll sections are trimmed.

Claim 25 The suspension device of claim 16, wherein said plurality of roll sections is constituted by an odd number of said roll sections.

Claim 26 A device comprising first and second suspension devices arranged in a covering relation with respect to each other, each of said first and second suspension devices being constituted by the suspension device of claim 16.

Claim 27 A device comprising first and second suspension devices arranged in a covering relation with respect to each other, each of said first and second suspension devices being constituted by the suspension device of claim 16, and wherein said first and second suspension devices are circumferentially offset relative to one another by 1/2 of a width of one of said roll sections.

Claim 28 An electro-acoustic transducer comprising:

the suspension device of claim 16,

wherein said inner-connecting edges of said roll sections are coupled with a voice coil disposed in a magnetic gap of a magnetic circuit or with an outer peripheral part of a diaphragm coupled with said voice coil, and

wherein a frame attaching part is connected to a continuous outer loop formed by said outer-connecting edges of said roll sections, said frame attaching part for supporting the magnetic circuit and a vibration system.

EVIDENCE APPENDIX

1. Merriam-Webster Online Dictionary (<http://www.merriam-webster.com/dictionary>), October 31, 2007.

RELATED PROCEEDINGS

None

*Evidence cited in Appeal Brief
re. Application 10 1523, 694*

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edge

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edge [1, noun]
edge [2, verb]
 cutting edge
 deckle edge
 edge city
 edge effect
 edge-grain
 edge in
 edge tool
 gilt-edged

Main Entry: **edge**

Pronunciation: \e\j\

Function: *noun*

Etymology: Middle English *egge*, from Old English *ecg*; akin to Latin *acer* sharp, Greek *akmē* point

Date: before 12th century

1 **a** : the cutting side of a blade <a razor's *edge*> **b** : the sharpness of a blade <a knife with no *edge*> **c** (1) : **FORCE, EFFECTIVENESS** <blunted the *edge* of the legislation> (2) : vigor or energy especially of body <maintains his hard *edge*> **d** (1) : incisive or penetrating quality <writing with a satirical *edge*> (2) : a noticeably harsh or sharp quality <her voice had an *edge* to it> (3) : a secondary but distinct quality <rock music with a bluesy *edge*> **e** : keenness or intensity of desire or enjoyment <lost my competitive *edge*> <took the *edge* off our appetites>

2 **a** : the line where an object or area begins or ends : **BORDER** <on the *edge* of a plain> **b** : the narrow part adjacent to a border <the *edge* of the deck> **c** (1) : a point near the beginning or the end; *especially* : **BRINK, VERGE** <on the *edge* of disaster> (2) : the threshold of danger or ruin <living on the *edge*> **d** : a favorable margin : **ADVANTAGE** <has an *edge* on the competition>

3 : a line or line segment that is the intersection of two plane faces (as of a pyramid) or of two planes

— **edge-less** *adjective*
 — **on edge** : **ANXIOUS, NERVOUS**

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